The Adolescent Family Life Program as a Prevention Measure

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SYNOPSIS

Adolescent pregnancy and parenthood remain a source of considerable concern, not only due to the well-documented adverse consequences of teenage pregnancy, but also because of certain trends that emerged during the seventies. Survey results showed a dramatic upsurge in premarital sexual activity, while pregnancies and sexually transmitted diseases rose. Out-of-wedlock births also increased. The Adolescent Family Life Program is a new Federal Government effort to deal with the resultant complex of problems.

The Program has two major thrusts: (a) preventing adolescent pregnancies by emphasizing the strategy of reaching adolescents before they become sex-

ually active and (b) preventing various negative consequences of pregnancy that often occur among adolescent parents and their offspring. The Program is funding projects that demonstrate and evaluate innovative services in order to obtain knowledge about what works best under given circumstances in both instances. Later, proven models will be made available for adaptation by local communities.

Education about the responsibilities of sexuality and parenting will be among the prevention services encouraged in the funded projects. Care services to parenting adolescents include pre and postnatal care, nutrition counseling, continuing education, and vocational services.

Through its research component, the Adolescent Family Life Program also has the potential for contributing to an understanding of how to prevent adolescent pregnancies and their adverse consequences. Research projects may encompass the causes and consequences of adolescent sexual relations, use of contraceptives, pregnancy, and childrearing.

Family involvement is a consistent theme in all efforts of the Adolescent Family Life Program. It is anticipated that results of the projects funded by the Program will illuminate ways to incorporate the family into a successful partnership aimed at preventing the problems of adolescent pregnancy.

A T A TIME WHEN INFORMATION about and access to birth control methods has become increasingly available, the United States nonetheless finds itself faced with disturbing rates of pregnancy and parenthood among its teenage population. An advanced and affluent country, its teenage birthrate of 52 per 1,000 women is still among the highest for developed countries (1a).

The need for effective approaches to the prevention of this serious national problem with important public health dimensions is clear. Simple and easy solutions to the problem do not exist, however.

Yet there is cause for hope. Although statistics paint a bleak picture of the negative consequences stemming from adolescent pregnancy and parenthood, services programs reaching out to support pregnant and parenting teens through difficult ex-

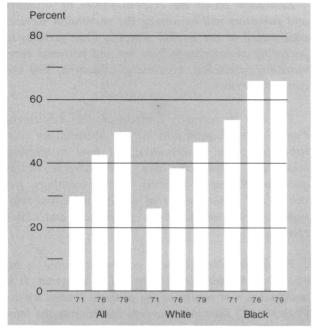
periences have been able to register successful results in many respects.

The Adolescent Family Life (AFL) Program represents a renewed commitment at the Federal level to work on the whole range of problems associated with adolescent pregnancy and parenting. Those responsible for carrying out the Program are seeking to learn more about how to prevent the destructive fallout from adolescent pregnancy and parenthood and, even more ambitiously, attempting to develop a new initiative for tackling the basic roots of the problem.

Nature and Extent of the Problem

A dramatic upsurge in adolescent premarital sexual activity appears to have taken place during the last decade, leaving in its wake renewed concern about teenage pregnancy in this country. Using timeseries data collected on national probability samples in 1971, 1976, and 1979, Kantner and Zelnik found a two-thirds increase in the proportion of young women, aged 15–19, who reported that they had ever had premarital sexual intercourse (2). In 1971, 30 percent of the young women surveyed reported having had premarital sexual intercourse; in 1976

Figure 1. Percentage of females 15—19 years who ever had intercourse before marriage, by race 1971, 1976, and 1979



SOURCE: Reference 2, page 231

the figure was 43 percent; and in 1979, 50 percent. Most of the increase resulted from an upswing in rates of sexual activity reported among white girls (fig. 1).

Information from the same national samples indicated marked improvement in contraceptive use among never-married sexually active girls. The proportion practicing contraception at last intercourse rose from 50 percent in 1971 to 64 percent in 1976 and climbed to 70 percent in 1979 (1b). Has this improvement in contraceptive practice been sufficient to contain the rise in premarital adolescent pregnancies that could be expected to accompany greater adolescent sexual activity? Thus far, the answer to that question is "no," underlining the key significance of the upwardly spiraling trend in premarital sexual activity among America's teenagers.

At first glance the trends in numbers and rates of birth to teenagers are encouraging. In the seventies, births to women under 20 fell from 656,000 in 1970 to 562,000 in 1980. Similarly, the teenage fertility rate (births per 1,000 women under 20) generally moved downward in the seventies, in keeping with a more pronounced pattern being evinced among older women. Significantly, however, the younger the specific age group among adolescents, the smaller or almost nonexistent was the decline in the fertility rate. Only a small proportion of teen births are to the under 15 years age group, but the adverse consequences of premature parenthood are most severe for these very young adolescents (fig. 2).

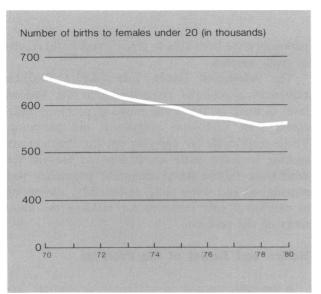
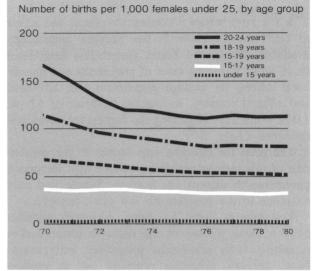
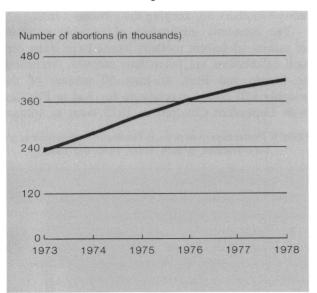


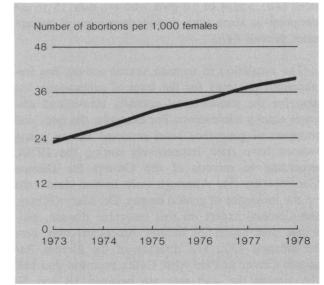
Figure 2. Adolescent fertility, 1970-80



SOURCE: National Center for Health Statistics, Vital Statistics of the United States, annual volumes

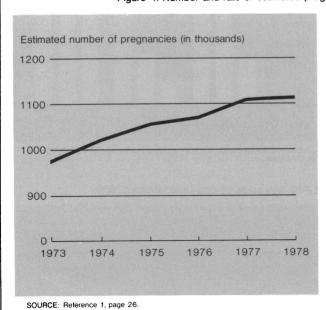
Figure 3. Number and rate of abortions for females 15-19 years, 1973-78

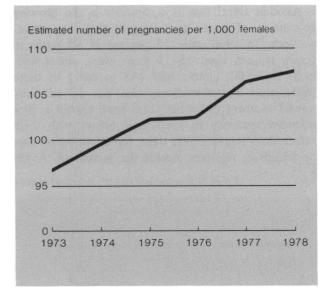




SOURCE: Adapted with permission from Henshaw, S. K., Forrest, J. D., Sullivan, E., and Tietze, C.: Abortion 1979—1980: need and services in the United States, each State and metropolitan area. Alan Guttmacher Institute, New York, 1983. Forthcoming.

Figure 4. Number and rate of estimated pregnancies for females 15-19 years, 1973-78





Unfortunately, as demographer Arthur Campbell has pointed out, the only progress in the control of fertility among unmarried teenagers in the seventies appears to have come about through increased reliance on abortion (3). Between 1973 and 1978, the number of women aged 15–19 obtaining abortions rose from 232,000 to 419,000, almost doubling. Similarly, abortions per 1,000 women aged 15–19 increased from 22.8 to 39.7 during the same period (fig. 3). If teen pregnancy estimates are derived by summing teenage births, abortions, and

miscarriages, with miscarriages assumed to be equal to 20 percent of the births and 10 percent of abortions, pregnancies among women aged 15–19 can be estimated as rising from a total of 980,000 to 1,113,000 between 1973 and 1978. Concomitantly, the estimated pregnancy rate (pregnancies per 1,000 women aged 15–19) rose from 96.8 to 107.3 (fig. 4).

Thus, teenage pregnancies are up, although births are down through the intervention of abortion. To put the matter more vividly, each year we can ex-

pect at least 1 teenage girl in 10 to become pregnant (4a) and 4 of 10 girls who are now 15 to get pregnant at some time during their teens if current rates prevail (4b).

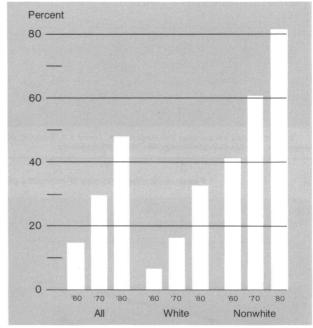
The escalation in teenage sexual activity has implications not only for the level of pregnancies but also for the incidence of sexually transmitted diseases among adolescents. For example, the rates and numbers of gonorrhea cases reported among young women have risen impressively during the 1970s, according to records of the Centers for Disease Control (fig. 5). Although only limited data exist on the incidence of genital herpes, Dr. Mary Guinan. the Centers' expert on this incurable disease, estimates that up to 20 million Americans may now be infected (5). The director of the Herpes Research Center in Palo Alto, Calif., reported that half the victims the staff sees are between 18 and 30 years old (6). Thus, it seems entirely possible that genital herpes may have reached epidemic proportions among teenagers.

Another trend that is a concern is the growing proportion of births to teenagers that are out-ofwedlock. In 1960, only 15 percent of all births to young women aged 15-19 years were out-of-wedlock. By 1980, almost half (48 percent) of these births were out-of-wedlock (fig. 6). In addition, unwed mothers in recent years have shown a pronounced tendency to keep their babies with them rather than relinquishing them for adoption or care by friends or relatives outside the household. Avail-

able evidence suggests that 90 percent or more of unwed mothers are keeping their babies (1c).

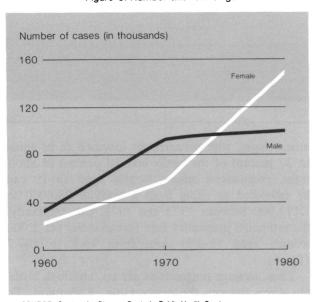
The economic implication of growing numbers of unwed adolescent mothers looms large when certain calculations are taken into account. According to Moore and Burt, at least 50 percent of the roughly \$10 billion expenditure for Aid to Families with Dependent Children in 1975 went to women

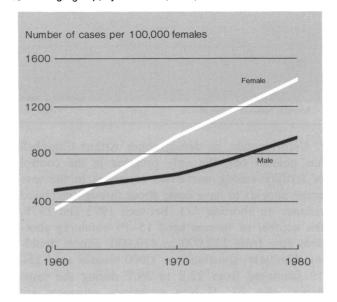
Figure 6. Percentage of all births to females 15-19 years that are out-of-wedlock by race 1960, 1970, and 1980



SOURCE: National Center for Health Statistics, Vital Statistics of the United States

Figure 5. Number and rate of gonorrhea cases for 15-19 age group, by sex 1960,1970,and1980





who were teenagers when they experienced their first births, even though births to teenagers made up less than one-fifth of all births (7). In another analysis, researchers at Stanford Research Institute estimated that each first birth to a teenager in 1979 would cost \$18,710 from government sources over the ensuing 20 years, a formidable sum when multiplied by the 560,000 such births that occurred in that year (8).

In addition to the economic costs absorbed by society, the individual pregnant or parenting adolescent or her partner, offspring, or family members may suffer a range of negative consequences when unintended births occur.

Teen mothers and their babies face high medical risks (9-11). Although maternal mortality rates have been relatively low and are declining in this country, the rate continues to be higher for teen mothers than mothers in their early twenties, as the following mortality rates per 100,000 live births show:

Year	Mothers under 20 years	Mothers 20–24 years
1960	22.7	20.7
1970		13.0
1978	0.7	6.4

SOURCE: National Center for Health Statistics, unpublished data.

Teen mothers also tend to have higher rates than older mothers of nonfatal maternal complications such as toxemia, anemia, prolonged labor, and premature labor (12.13).

Pregnancies of teenagers more frequently end in miscarriages and still births than pregnancies of older women, especially for second or higher order pregnancies (13). Babies born to teenagers are more likely to have low Apgar scores (14) and to die within the first month and first year of life (13). The risk of bearing a low birth weight baby continues to be higher for teenage mothers, particularly those under 15 years, compared to mothers aged 20–24, as the following percentages of low birth weight infants born to young mothers show:

Year	Mothers under 15 years	Mothers 15–19 years	
1960	16	10	7
1970	17	11	8
1979	14	10	7

SOURCE: National Center for Health Statistics, unpublished data.

Low birth weight is a major cause of infant mortality and also contributes to serious long-term

medical conditions such as mental retardation and epilepsy (4c,15,16).

Teenage parenthood is associated with experiences that place great stress on the parents, particularly the mother. First, teenage parenthood significantly reduces educational attainment, particularly of the young mother, and her employment prospects in turn are reduced (17-19). Women who start childbearing in their teens have more children. have them closer together, and have more unintended children than women who delay first births until their twenties (20). Also, the probability of separation and divorce is greater for teenage couples than those who marry later (11,18,19). These various factors combine to heighten the prospect of welfare dependency for families that are initiated by a birth during the teen years (17,18). Although questions about causation are not easily addressed, studies that have attempted to isolate the impact of teenage parenthood from other influences support the viewpoint that, typically, teenage parenthood helps to set in motion a chain of events leading to the undesirable outcomes just discussed (19,21).

Adolescent Family Life Program

Efforts to prevent adolescent pregnancy can be classified into two major categories: (a) primary prevention—prevention of adolescent pregnancies as such and (b) secondary prevention—alleviation of the negative consequences of pregnancy for the adolescent parent and offspring. Both types of prevention are of concern in the AFL Program. In the language of the AFL legislation, secondary prevention is termed "care services," and "prevention services" refer to the strategies oriented to primary prevention. As the title of the Program indicates, the role of the family in both arenas is stressed.

The AFL Program is a successor of the Adolescent Pregnancy Program (APP), initiated by 1978 legislation as the first Federal Program designed to deal specifically with teenage pregnancy. This legislation, enacted as titles VI, VII, and VIII of the Health Services and Centers Amendments of 1978 (Public Law 95-626), authorized grants to public agencies and private nonprofit organizations for the provision of services to address adolescent pregnancy. The major thrust of the Adolescent Pregnancy Program was directed to secondary prevention.

Under APP, a total of 38 projects were funded at \$16 million over a 3-year period. These projects were operated at single sites or were linked with other appropriate community agencies. They emphasized the delivery of comprehensive care to pregnant and parenting adolescents in the form of 10 required core services provided directly or by referral. The 10 core services were pregnancy testing and maternity counseling, family planning services, primary and preventive health services (including prenatal and postnatal care), nutrition information and counseling, screening and treatment of venereal disease, pediatric care, educational services in sexuality and family life, educational and vocatitional services, adoption counseling; and other appropriate health services.

Simultaneously with the consolidation of APP into the Maternal and Child Health Block Grant, Congress enacted a new categorical program concerned with adolescent pregnancy. The AFL Program was enacted as part of the Omnibus Budget Reconciliation Act of 1981 and incorporated as title XX of the Public Health Service Act. The new program continues to authorize grants to public agencies and private nonprofit organizations to provide services.

The span of "care services" authorized by the AFL legislation encompasses all of the care services considered essential under APP and adds a few, such as "referral to licensed residential care or maternity home services" and "mental health services." However, the Secretary of Health and Human Services is given flexibility to determine which care services are to be considered "core" for the AFL Program via the regulatory mechanism.

The new legislation highlights a distinction between care services for which only pregnant and parenting adolescents are eligible and prevention services which are aimed at preventing adolescent sexual relations and are available to any adolescent. Additionally, the legislation calls considerable attention to the promotion of adoption as an alternative for adolescent parents. The "prevention services" listed in the legislation are as follows:

educational services relating to family life and problems associated with adolescent premarital sexual relations, including—

- (i) information about adoption;
- (ii) education on the responsibilities of sexuality and parenting;
- (iii) the development of material to support the role of parents as the provider of sex education; and
- (iv) assistance to parents, schools, youth agencies, and health providers to educate adolescents and preadolescents concerning self-discipline and responsibility in human sexuality;

outreach services to families of adolescents to discourage sexual relations among unemancipated minors;

counseling for the immediate and extended family members of the eligible person;

referral for screening and treatment of venereal disease; pregnancy testing and maternity counseling;

nutrition information and counseling;

transportation; and

such other services consistent with the purpose of this title as the Secretary may approve in accordance with regulations promulgated by the Secretary.

The AFL Program also differs significantly from the APP in that it does not have the goal of funding a direct services delivery system. Instead, the projects it funds are demonstration services projects. The initial goal of the AFL Program as a demonstration is to elicit a variety of innovative approaches to care and prevention services in the projects that it funds. The next step is careful evaluation to identify those projects that can be recommended as models for use by State and local service providers. The legislation specifies that the evaluations be conducted by an organization or entity that is independent of the grantee providing services. Not only does the demonstration-evaluation format of the AFL Program signal a new kind of leadership at the Federal level but, if successful, it will provide new, sound information as to what works as primary and secondary prevention strategies in the adolescent pregnancy field.

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The AFL Program, through its research component, also has the potential for contributing importantly to our understanding of how to prevent adolescent pregnancies and their adverse consequences. The AFL legislation authorized research projects concerning the causes and consequences of adolescent premarital sexual relations, contraceptive use, pregnancy and child-bearing, as well as evalu-

ative research to identify services that alleviate the negative consequences of such sexual relations and child-bearing.

Funds were first made available to the AFL Program late in fiscal year 1982, when grants totaling \$10 million were awarded to 62 projects located in 38 States. Of these, 50 were demonstration services projects and 12 were research projects. In keeping with legislative guidelines, care demonstration projects received \$5.8 million, prevention demonstration projects, \$2.9 million, and research awards, \$1.2 million. A contract to establish a data archive on all aspects of teenage pregnancy also was awarded in fiscal year 1982.

Adolescent Pregnancy Prevention Issues

Statistics from the seventies suggest that by the eighties, premarital sexual activity had become widespread among our youth. More frequent use of contraceptives among sexually active adolescents had been achieved but had failed to contain the rising incidence of unintended pregnancies. These dimensions of the situation have prompted a search for new directions in primary prevention. The AFL Program can be seen as a concrete expression of a more general belief held by some that the time has come to reorient primary prevention efforts in the adolescent pregnancy field.

At the same time, the issue of how to carve out additional progress in secondary prevention continues to receive a major share of attention as the new AFL Program gets underway. The reason is simply that the need in this area is too great and the benefits to be derived from addressing the problems are too substantial to be ignored. Thus, the AFL Program is firmly committed to a balanced effort to achieve progress on both the primary and secondary prevention fronts.

The Adolescent Pregnancy Program left a valuable legacy; it established that integrated comprehensive services to pregnant and parenting youth do seem to make a difference. Followup data on APP projects are becoming available that show favorable results in such matters as pregnancy outcomes, repeat pregnancies, employment status, and welfare dependency (22). From a variety of sources, the evidence had been accumulating, particularly in the medical area, that services are investments which pay handsome dividends. The medical problems experienced by teen mothers and their infants are now thought to be largely preventable if teen mothers obtain quality prenatal care and good nutrition early in pregnancy (23).

The AFL Program, because it emphasizes innovation and testing of alternative models much more than the APP, should be able to refine greatly our knowledge of which configuration of services works best for various populations under different circumstances. For example, the particular mix of services that is ideal for an urban population in the northeastern part of the country might differ importantly from the set of services that best meets the needs of a rural population in the Southwest. The evaluation of different care services models in diverse settings and then dissemination of detailed information about the successful models that are specifically appropriate to locations in need of assistance are steps to be taken in the AFL Program as a means of moving forward secondary prevention efforts.

A major new direction in both primary and secondary prevention is the AFL Program's incorporation of the family as a partner in prevention efforts. In doing so, the AFL Program is filling a void noted by Ooms, who states in the introduction to "Teenage Pregnancy in a Family Context" that, "policy discussions and research about teenage sex and fertility have almost totally neglected the adolescent's family" (24). And yet, as another analyst has observed (25a):

Policies that ignore familial support, and undermine rather than supplement, the efforts and effectiveness of parents are likely to yield programs that are wasteful, inefficient, and ineffective.

Given the fact that approximately 80 percent of the unmarried adolescents who carry their pregnancies to term continue to live with their families, the potential contribution of a family involvement strategy to secondary prevention is considerable. In developing methods to strengthen the capacity of families to deal with pregnant and parenting adolescents, AFL services projects can be expected to demonstrate how to mobilize powerful familial forces toward better outcomes for those adolescents and their offspring, while also alleviating the stresses and burdens placed on the family members themselves.

It is in the primary prevention area, however, that definitive findings about the family-centered approach are being most eagerly awaited. A family involvement approach may be able to fill the prevention gap now unspanned by current routine solutions. The inadequacies of current approaches have been pointed out by such practitioners as Dr. Tomas Silber, a pediatrician who heads the Adolescent Medicine Unit of Childrens' Hospital in Washington, D.C. He cited the pitfalls of relying on a medi-

cal model which (a) presumes the etiology of adolescent pregnancy to be knowable (that is, unprotected intercourse) and (b) prescribes that the "disease" be cured by present or foreseeable techniques (that is, the "best" contraceptive).

This model ignores the motivation of the "patient" and the influence of forces forming the social and cognitive milieu in which adolescent pregnancy occurs, according to Silber. The standard procedures of those who follow this model—distributing information and making contraceptives available—may be necessary, but the procedures are "insufficient and simplistic," he believes (26).

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Responding to concerns such as those of Silber, the AFL Program has given distinct impetus to a prevention approach that (a) seeks to influence the behavior of adolescents in the direction of abstinence from premarital sexual relations and (b) stresses the relative importance of parental influence in this matter. Notably, this approach contains emphases that run counter to certain assumptions, firmly held by some, about adolescents and the way that they function in the present society.

One assumption is that, in the face of a general trend in recent years toward more permissive sexual attitudes and behavior, adolescents cannot be expected to resist adopting the behaviors and attitudes that they see exhibited by adults. Another assumption is that parents can do little and are among the least capable of adult socializers to redirect the powerful peer and media influences on their children toward premarital sexual activity. But how solidly based in fact are such assumptions? Is it not time for a careful reexamination of these assumptions?

The demonstration services projects and research inquiries supported by the AFL Program can be expected to yield relevant results in this matter. In particular, the evaluation findings from the prevention demonstration projects will test empirically the

effectiveness of prevention strategies whose thrust is to strengthen the parents' role in influencing their children toward responsible sexual behavior.

The preponderance of existing evidence, however, encourages the conviction that the prevention course charted by the AFL Program is a promising one. For example, in a summary of research findings on "The Family's Role in Adolescent Sexual Behavior," Fox concluded that although little direct communication about sex occurs in American homes, such communication between parent and child appears to forestall or postpone a child's sexual activity. Furthermore, among those daughters who are sexually active, such communication appears related to more effective contraceptive practice by the child (25b).

Although peers are believed to be the major influence on adolescent sexuality currently, this situation may reflect primarily the fact that parents are not talking about such issues, rather than that they are incapable of being influential in this important area. There are ready explanations why parents shy away from communication with their children about sex-related topics. Fox, for example, has delineated some factors that produce strain for parents and child in this area that can be summarized as follows (25c):

- 1. The delicate renegotiation of roles taking place due to developmental changes that occur during adolescence;
- 2. The confusion caused by shifting social attitudes about premarital sexuality and pregnancy; and
- 3. The lack of clarity about the role of other community agencies (schools, churches, etc.) vis-a-vis parents in sexual socialization of children.

Numerous and subtle factors indeed may place obstacles in the way of positive parent-child relationships that would promote responsible sexual behavior by adolescents. Nonetheless, there are many reasons to believe that the application of creative thought and effort to this prevention strategy can yield hopeful progress in solving the problem of teenage pregnancy. Bringing resources together and deploying them on several fronts to meet this unique challenge is at the heart of the AFL Program's primary prevention mission.

- The Alan Guttmacher Institute: Factbook on teenage pregnancy. New York, 1981; (a) p. 34; (b) p. 11; (c) p. 37.
- 2. Zelnik, M., and Kantner, J .F.: Sexual activity, contra-

- ceptive use and pregnancy among metropolitan-area teenagers: 1971–1979. Fam Plann Perspect 12: 230–238. September-October 1980.
- Campbell, A. A.: Trends in teenage childbearing in the United States. In Adolescent pregnancy and childbearing: findings from research, edited by C. S. Chilman. NIH Publication No. 81-2077. U.S. Government Printing Office, Washington, D.C., 1980, p. 12.
- 4. The Alan Guttmacher Institute: Teenage pregnancy: the problem that hasn't gone away. New York, 1981; (a) p. 19; (b) p. 21; (c) p. 29.
- 5. Incurable herpes soars to epidemic proportions in U.S. Washington Post, Mar. 27, p. A8.
- Public awareness is high on genital herpes epidemic; knowledge of disease recent; case number may approach 20%. ABC News Washington Post Poll. Summary of survey #0059. New York, September 1982.
- Moore, K. A., and Burt, M. R.: Private crisis, public cost: policy perspectives on teenage childbearing. Urban Institute Press. Washington, D.C., 1982, p. 25.
- SRI International, Health Service Research Department: An analysis of government expenditures consequent on teenage childbirth. Menlo Park, Calif., 1979.
- Elster, A. B., and McAnarney, E. R.: Medical and psychosocial risks of pregnancy and childbearing during adolescence. Pediatr Ann 9: 89-94, March 1980.
- McHenry, P. C., Walters, L. H., and Johnson, C.: Adolescent pregnancy: a review of the literature. Fam Coordinator 28: 17-28, January 1979.
- Phipps-Yonas, S.: Teenage pregnancy and motherhood: a review of the literature. Am J Orthopsychiatry 50: 403-431. July 1980.
- Bonham, G. S., and Placek, P. J.: The relationship of maternal health, infant health, and sociodemographic factors to fertility. Public Health Rep 93: 283-292, May-June 1978.
- 13. Menken, J.: The health and demographic consequences of adolescent pregnancy and childbearing. In Adolescent pregnancy and childbearing: findings from research, edited by C. S. Chilman. NIH Research Publication No. 81-2077, U.S. Government Printing Office, Washington, D.C., 1980, pp. 157-205.
- 14. National Center for Health Statistics: Appar score in the United States, 1978. Monthly Vital Stat Rep (supp) vol 30, No. 1, May 6, 1981.
- Klerman, L. V., and Jekel, J. F.: School-age mothers: problems, programs and policy. Linnet Books, Hamden, Conn., 1973.
- Nye, F. I.: School age parenthood. Extension Bull No. 667, Cooperative Extension Service, Washington State University, Pullman, 1976.
- 17. Moore, K. H., Hofferth, S. L., and Wertheimer, R.: Teenage motherhood: its social and economic costs. Child Today 8: 12-16, September-October 1979.
- Furstenberg, F. F.: The social consequences of teenage parenthood. Fam Plann Perspect 8: 148-164, July-August 1976.
- 19. Card, J. J., and Wise, L. L.: Teenage mothers and teenage fathers: the impact of early childbearing on the parents' personal and professional lives. Fam Plann Perspect 10: 199-205, July-August 1978.

- Trussell, J., and Menken, J.: Early childbearing and subsequent fertility. Fam Plann Perspect 10: 209-218, July-August 1978.
- Moore, K. A., and Waite, L. J.: Early childbearing and educational attainment. Fam Plann Perspect 9: 220– 225. September-October 1977.
- 22. Hardy, J. B., and Flagle, C. D.: Results, costs and assessment of the investment opportunity. Paper presented at a Symposium on Adolescent Pregnancy: Management and Prevention, an Investment in Futures. Johns Hopkins University, Baltimore, Oct. 3, 1979.
- Baldwin, W. H., and Cain, V. S.: The children of teenage parents. Fam Plann Perspect 12: 34-43, January-February 1980.
- Ooms, T., editor: Teenage pregnancy in a family context: implications for policy. Temple University Press, Philadelphia, 1981; (a) p. 10.
- 25. Fox, G. L.: The family's role in adolescent sexual behavior. In Teenage pregnancy in a family context: implications for policy, edited by T. Ooms. Temple University Press, Philadelphia, 1981; (a) pp. 124-125; (b) p. 98: (c) pp. 114-123.
- Silber, T. J.: Adolescent pregnancy: a new perspective. Clinical proceedings, Children's Hospital National Medical Center 36: 350-353, November/December 1980.